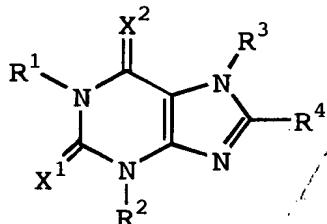


CLAIMS

1. A therapeutic agent for neurodegenerative disorders comprising, as an active ingredient, a xanthine derivative represented by formula (I):



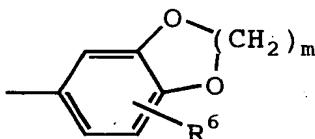
5

wherein R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> independently represent hydrogen, lower alkyl, lower alkenyl or lower alkynyl; R<sup>4</sup> represents cycloalkyl, -(CH<sub>2</sub>)<sub>n</sub>-R<sup>5</sup> (wherein R<sup>5</sup> represents substituted or unsubstituted aryl, or a substituted or unsubstituted heterocyclic group,

10 and n is an integer of 0 to 4), or the following group:



wherein Y<sup>1</sup> and Y<sup>2</sup> independently represent hydrogen, halogen or lower alkyl, and Z represents substituted or unsubstituted aryl or the following group:

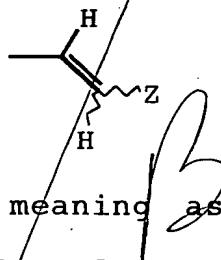


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(wherein R<sup>6</sup> represents hydrogen, hydroxy, lower alkyl, lower alkoxy, halogen, nitro or amino, and m is an integer of 1 to 3), or a substituted or unsubstituted heterocyclic group; and X<sup>1</sup> and X<sup>2</sup> independently represent O or S, or a pharmaceutically acceptable salt thereof.

2. The therapeutic agent for neurodegenerative disorders according to claim 1 comprising the compound wherein  $X^1$  and  $X^2$  are 0, or a pharmaceutically acceptable salt thereof as an active ingredient.

5 3. The therapeutic agent for neurodegenerative disorders according to claim 1 or 2 comprising, as an active ingredient, the compound wherein  $R^4$  is the following group:



10 wherein Z has the same meaning as defined above, or a pharmaceutically acceptable salt thereof.

4. A method of treating neurodegenerative disorders, which comprises administering an effective dose of a xanthine derivative according to any one of claims 1 to 3 or a pharmaceutically acceptable salt thereof.

15 5. Use of a xanthine derivative according to claims 1 to 3 or a pharmaceutically acceptable salt thereof for manufacturing a pharmaceutical composition useful for treatment of neurodegenerative disorders.

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B1

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